CLAIMS

1. An integrated circuit on a substrate, comprising:

a first well having a first dopant concentration and including a second conductivity low-voltage transistor;

a second well having a dopant concentration equal to the first dopant concentration and including a first conductivity high-voltage transistor;

a third well having a second dopant concentration of an opposite type than the first well and including a first conductivity low-voltage transistor; and

wherein the first conductivity low-voltage transistor and the second conductivity low-voltage transistor are created without a threshold voltage (V_t) implant.

2. The integrated circuit of claim 1, wherein the first conductivity high-voltage transistor is a lateral dual-diffusion metal-oxide semiconductor.

3. The integrated circuit of claim 2, wherein the first conductivity high-voltage transistor has a breakdown voltage of greater than 40 volts.

4. The integrated circuit of claim 1, further comprising an energy dissipation element coupled to said first conductivity high-voltage transistor.

5. A fluid jet printhead, comprising:

the integrated circuit of claim 4; and

an orifice layer defining an opening for ejecting fluid thermally coupled to said energy dissipation element, said orifice layer disposed on the surface of the integrated circuit.

6. A recording cartridge, comprising:

the fluid jet printhead of claim 5;

a body defining a fluid reservoir, said fluid reservoir fluidically coupled to the opening in said orifice layer of the fluid jet printhead; and

a pressure regulator to control the pressure of the fluid reservoir within the body of the recording cartridge.

7. A recording device for placing fluid on a medium, comprising:

the recording cartridge of claim 6; and

a transport mechanism to move the recording cartridge in at least one direction with respect to the medium.

8. The integrated circuit of claim 1 wherein the first and second wells are an N-wells and wherein the third well is a P-well.

9. The integrated circuit of claim 1 wherein the first conductivity high-voltage transistor is an n conductivity high-voltage transistor.

10. A method of creating a substrate having multiple regions for creating low-voltage transistors of a first and second conductivity and high-voltage transistors of a first conductivity, comprising the steps of:

creating a defined deposition of a first dielectric layer to expose a first region and a second region; then consisting essentially of the steps of:

implanting a first conductivity dopant into the first and second regions;

applying a first protective coating over the first and second regions;

driving in the first conductivity dopant into the substrate;

removing the first dielectric layer;

creating a defined deposition of a second dielectric layer in the same location as the defined deposition of the first dielectric layer;

implanting a second conductivity dopant in the substrate disposed under the defined deposition of the second dielectric layer;

driving in the second conductivity dopant into the substrate;

removing the first protective coating and the second dielectric layer;

creating a patterned third dielectric layer over the surface of the substrate to expose the drain and source of the first and second conductivity low-voltage transistors and the first conductivity high-voltage transistor;

creating a defined deposition of a fourth dielectric layer disposed on the drain and source of the first conductivity low-voltage transistor;

applying a second protective coating over the first and second regions;

implanting a second conductivity dopant into the substrate disposed under the drain and source of the first conductivity low-voltage transistor;

removing the second protective coating;

creating a fifth dielectric layer in areas of the substrate where the third dielectric layer is not located;

removing the patterned third dielectric layer; and

then further comprising the steps of:

creating a sixth dielectric layer over the surface of the substrate to form a gate oxide;

depositing a gate material over the sixth dielectric layer; and

patterning the sixth dielectric layer and the gate material to define gate regions of the first and second low conductivity transistors and a gate region of the first conductivity high-voltage transistor.

11. An integrated circuit made by the process of claim 10.

12. A method of creating an integrated circuit having a second conductivity low-voltage transistor in a first region, a first conductivity high-voltage transistor in a second region, and a first conductivity low-voltage transistor in a third region, comprising the steps of:

doping the first and second regions with a first dopant concentration to control the threshold voltage of the second conductivity low-voltage transistor; and

doping the third region with a second dopant concentration to control the threshold voltage of the first conductivity low-voltage transistor;

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wherein a voltage threshold adjust implant step to adjust the threshold voltages of the first and second low-voltage transistors is not performed.

13. An integrated circuit made by the process of claim 12.

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14. A method of processing an integrated circuit having a second conductivity low-voltage transistor in a first region, a first conductivity high-voltage transistor in a third region, and a first conductivity low-voltage transistor in a second region, comprising the steps of:

doping the first and second regions with a first dopant concentration; and

doping the third region with a second dopant concentration; and

excluding the step of:

implanting a threshold voltage adjustment of the first and second low-voltage transistors and

wherein the first and second regions have the substantially the same dopant concentration after processing of the integrated circuit.

15. An integrated circuit made by the process of claim 14.

16. A method of creating a substrate having multiple regions for creating low-voltage transistors of a first and second conductivity and high-voltage transistors of a first conductivity, comprising the steps of:

creating a defined deposition of a first dielectric layer to expose a first region and a second region; then

implanting a first conductivity dopant into the first and second regions; then

applying a first protective coating over the first and second regions; then

driving in the first conductivity dopant into the substrate; then

removing the first dielectric layer; then

creating a defined deposition of a second dielectric layer in the same location as the defined deposition of the first dielectric layer; then

implanting a second conductivity dopant in the substrate disposed under the defined deposition of the second dielectric layer; then

driving in the second conductivity dopant into the substrate; then

removing the first protective coating and the second dielectric layer; then

creating a patterned third dielectric layer over the surface of the substrate to expose the drain and source of the first and second conductivity low-voltage transistors and the first conductivity high-voltage transistor; then

creating a defined deposition of a fourth dielectric layer disposed on the drain and source of the first conductivity low-voltage transistor; then

applying a second protective coating over the first and second regions; then

implanting a second conductivity dopant into the substrate disposed under the drain and source of the first conductivity low-voltage transistor; then

removing the second protective coating; then

creating a fifth dielectric layer in areas of the substrate where the third dielectric layer is not located; then

removing the patterned third dielectric layer;

creating a sixth dielectric layer over the surface of the substrate to form a gate oxide;

depositing a gate material over the sixth dielectric layer; and

patterning the sixth dielectric layer and the gate material to define gate regions of the first and second low conductivity transistors and a gate region of the first conductivity high-voltage transistor.

17. An integrated circuit made by the process of claim 16.